

REMARKS

Reconsideration of this application, as amended, is requested.

Claims 1-16 remain in the application. Claims 1, 2, 8, 10-12 and 15 have been amended to define the invention more clearly.

Claims 1-14 were rejected under 35 USC 112, second paragraph. The Examiner offered helpful suggestions as to sections of the claims that were considered by the Examiner to be indefinite.

The claims have been reviewed carefully and amended to address the Examiner's helpful suggestions. Amended claims 1-14 do not positively recite the vehicle and the door. Rather, amended claims 1-14 merely mention the vehicle and the door to define the environment in which the power supply is used and to provide a frame of reference for the parts of the power supply.

Claims 1-6 and 8-16 were rejected under 35 USC 103(a) as being obvious over the German patent to Apprich considered in view of Komiya et al. The Examiner stated that Apprich discloses a vehicle with a sliding door and a flexible linkage with one end connected to the sliding door and the opposite end connected to the vehicle. The Examiner further concluded that Apprich shows a straight portion attached to the vehicle and capable of bending in only one direction. The Examiner stated that Apprich fails to disclose a flexible linkage capable of bending in two directions. However, the Examiner turned to Komiya et al. to address this perceived deficiency in Apprich. In this regard, the Examiner noted that Komiya et al. shows a linkage assembly where the links can bend in two directions. Claim 7 was rejected over these same references considered further in

view of Kobayashi. Kobayashi was cited merely for its showing of a flexible cover over a portion of the cable guide.

It appears that the Examiner has correctly interpreted the Komiya et al. reference as showing a cable guide that is capable of bending in plural directions. It also appears that the Kobayashi reference is relevant only in its teaching of a flexible cover over a portion of a cable. It is submitted with respect, however, that Apprich is deficient when applied to the amended claims and that the deficiencies of Apprich are not overcome by the secondary references.

The Examiner will appreciate that the delivery of power to a sliding door on a vehicle is complicated by the different types of movements to which the door is subjected. In particular, the sliding door must move in forward and rearward directions relative to the vehicle and also must move in and out as the door approaches its closed position. An improperly guided cable can contact adjacent structures on the vehicle, and hence would be subject to wear after repeated openings and closings. In extreme circumstances, portions of a cable can be caught as the vehicle is closed. Cable guides of the type generally disclosed in Apprich have been used for guiding a cable between a vehicle body and a sliding door. The typical cable guide generally resembles a bicycle chain with a plurality of links. Each link typically is capable of rotating freely in both directions relative to the adjacent links. The typical cable guide is mounted in a channel on the vehicle to limit the range and direction of rotatable movement of the cable guide to ensure that the guided cable is not moved into a position where the assembly of the cable and the guide are caught between the door and the vehicle. Apprich appears to be typical in this respect. More particularly, Apprich appears to show a vertical support identified by the numeral 15

in FIG. 3 and extending along the length of the vehicle. Apprich then shows another member spaced from the vertical support 15 to hold portions of the Apprich cable guide near the numeral 8 against the vertical support 15. Apprich also includes a track 19, 21 that parallels the vertical wall 15 along a major part of the length of the wall 15. Tracks 19, 21 then approach the vertical wall 21. Thus, the Apprich cable guide is constrained between the wall 15 and the tracks 19, 21. Apprich has no suggestion that the link members in any part of the Apprich cable guide differ from one another along the length of the cable guide. Additionally, Apprich has no suggestion that the link members anywhere along the Apprich cable guide are capable of being bent only in one selected direction.

In contrast to Apprich, the cable guide defined by amended claim 1 has “a plurality of link members interconnected so that each link member can pivot relative to at least one adjacent link member.” The cable guide includes “a first section and a second section.” The link members in the first section are “configured so that the first section is capable of being bent in a predetermined direction from a generally linear condition.” However, the link members in the second section are “configured so that the second section is capable of being bent only in an opposite direction opposite to the predetermined direction from a generally linear condition.” Neither Apprich nor the secondary references have any suggestion of a cable guide where the link members are configured for achieving specified directions of bending at different locations along the cable guide and independent of channels or other supporting structures on the vehicle. This results in several manufacturing efficiencies and enables the cable harness to be designed to perform properly independent of structural design considerations for the door and the vehicle body.

Dependent claim 2 defines one preferred embodiment where the link members on the first section of the cable guide are “configured so that the first section can be bent in both of the predetermined direction and the opposite direction.” Neither Aprich nor the secondary references have any suggestion of this aspect of the invention.

Claim 6 depends from claim 2 and further defines the first section as having a plurality of the link members interconnected “to be bent only in one direction” and another section having a plurality of link members interconnected to be bent in both directions.”

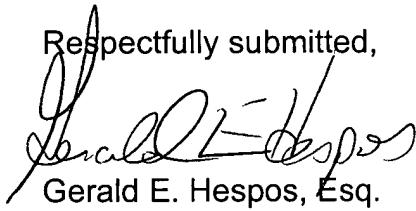
Dependent claim 8 defines a cable guide where the link members in the first section all bend in the same direction and the link members in the second section all bend in the opposite direction. Thus, the cable guide can assume generally S-shape. Dependent claim 10 defines the abutment portions that can limit the direction and range of rotational movement of the respective link members.

Independent claims 11 and 15 have been amended to include limitations similar to claim 1, and hence the preceding comments pertaining to claims 1-10 are believed to apply to dependent claim 11 and its dependent claims.

The undersigned attorney for the assignee recently conducted searches for the assignee on subject matter relating to a cable guide and power supply apparatus for a vehicle slide door. Counsel has reviewed the search results in the context of this application and believes that the references cited by the Examiner are more relevant than the references uncovered during the recent search. Nevertheless, this amendment is being submitted concurrently with a Third Information Disclosure Statement to ensure that the examiner has the benefit of these recently uncovered references.

In view of the preceding amendments and remarks, it is submitted that the amended claims are directed to patentable subject matter and allowance is solicited. The Examiner is urged to contact applicants attorney at the number below to expedite the prosecution of this application.

Respectfully submitted,



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Date: December 28, 2004